

Accessing and Using the ARM Archive Data Visualization Cluster

1. Request an account

- Send an email to ARM Archive User Services (armarchive@arm.gov) with the subject line “Request for access to ARM Archive Data Visualization Cluster”, and your ARM Archive User ID in the body of the email.

Note: If you don’t have an ARM Archive account/User ID, please follow the simple account setup procedure found here:

<http://iop.archive.arm.gov/cgi-bin/account-maint?http://www.archive.arm.gov/armlogin/login.jsp>

then include your User ID in your “Request for access” email.

- In response to the “Request for access” email, you will receive a reply containing a link and instructions for creating the required ORNL “XCAMS” account, which only takes a few minutes.

2. Create your ORNL XCAMS account

The first screen in the XCAMS process will ask you to choose your XCAMS Username. If you already have an ARM Archive UserID that is at least 4 characters in length, it's recommended you use that ID as your XCAMS Username. Please also note that you will be asked to set up a reminder PIN even before you choose your login password.

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Please enter your email address and choose a username.

Email Address:

Username:

Email Address

- You must enter a valid email address to which you have access.
- This email address will be used to contact you regarding your account.

Username

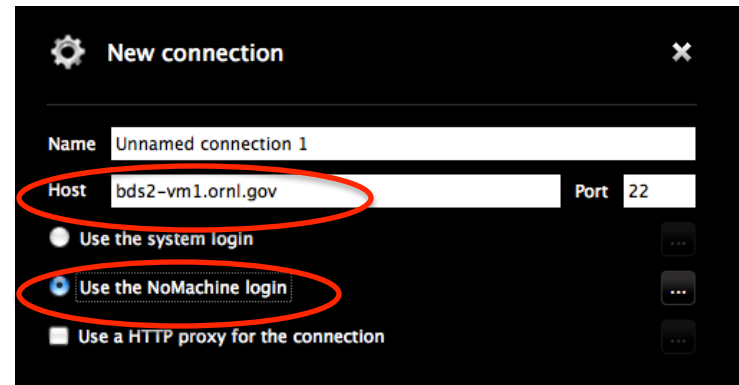
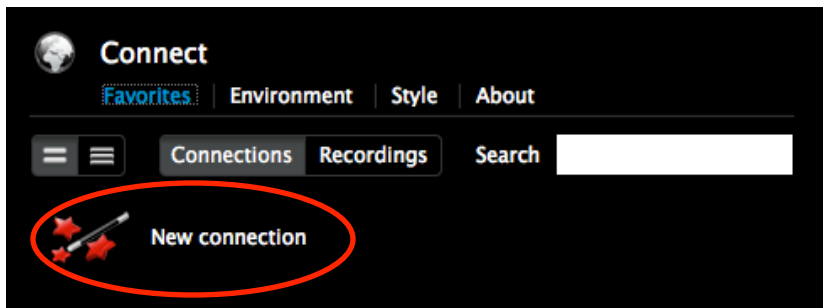
- Must be from 4-20 characters long.
- May contain letters, numbers, and underscores ("a-z", "0-9", "_").

Once your XCAMS account is created, send an email to armarchive@arm.gov with the subject line "XCAMS Username for Data Visualization Cluster", and your XCAMS Username in the body of the email.

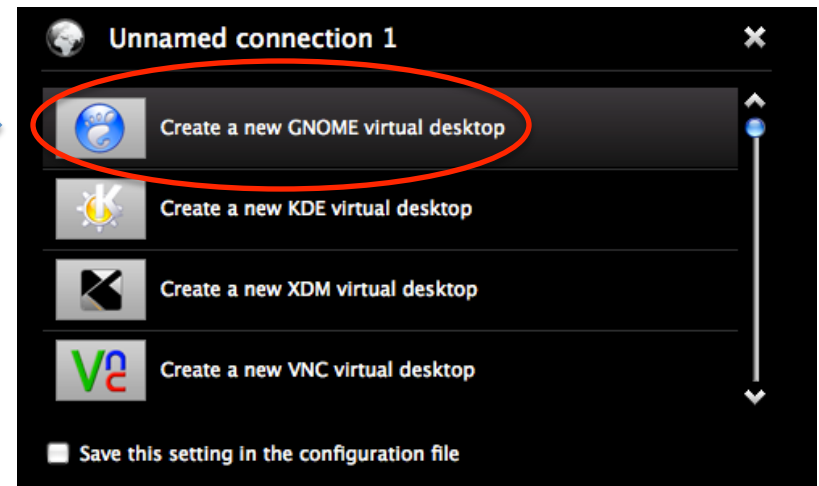
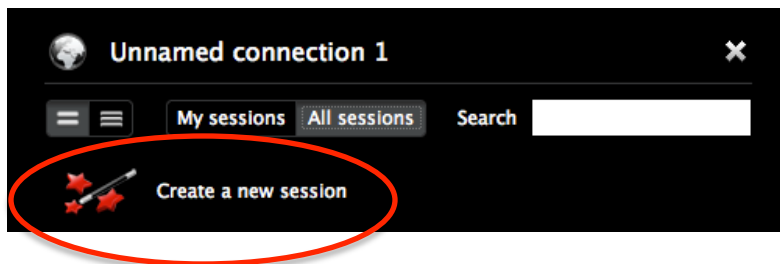
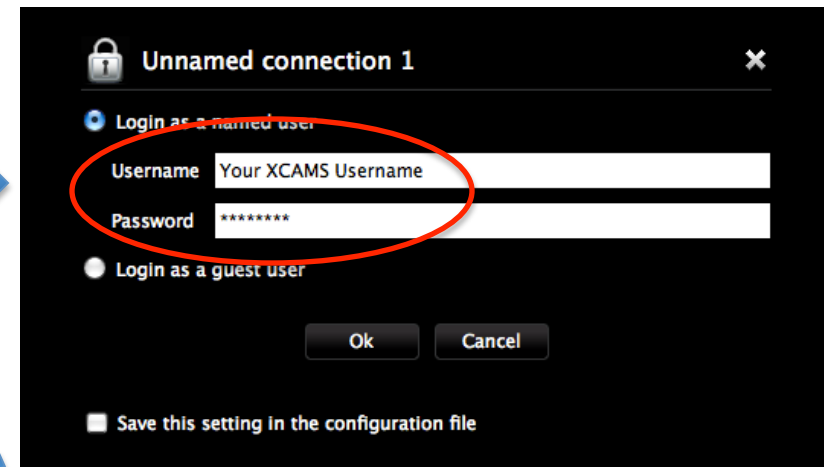
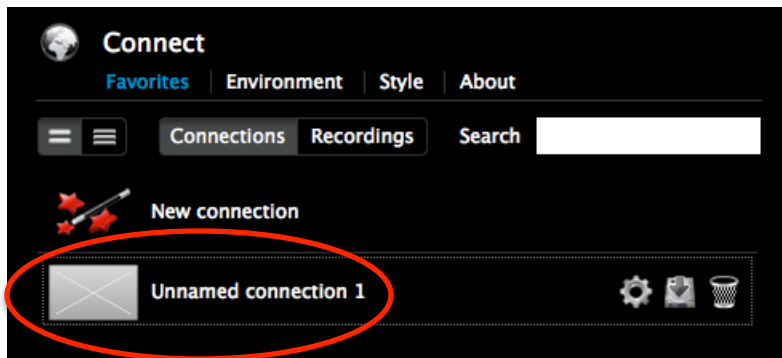
3. Accessing the ARM Visualization Cluster:

The ARM visualization cluster can be accessed using the remote desktop utility NoMachine Player

- You will receive an email from the ARM Archive with a link for downloading *NoMachine Player* software to your computer for use in accessing the Data Visualization Cluster server.
- Once installed on your computer, launch the *NoMachine Player* program and click on “New Connection” when the Connect window appears. In the next window enter the name of the host – “bds2-vm1.ornl.gov” and select “Use the NoMachine login”. The Name of the connection can be whatever you wish. To go to the next step simply hit Return.

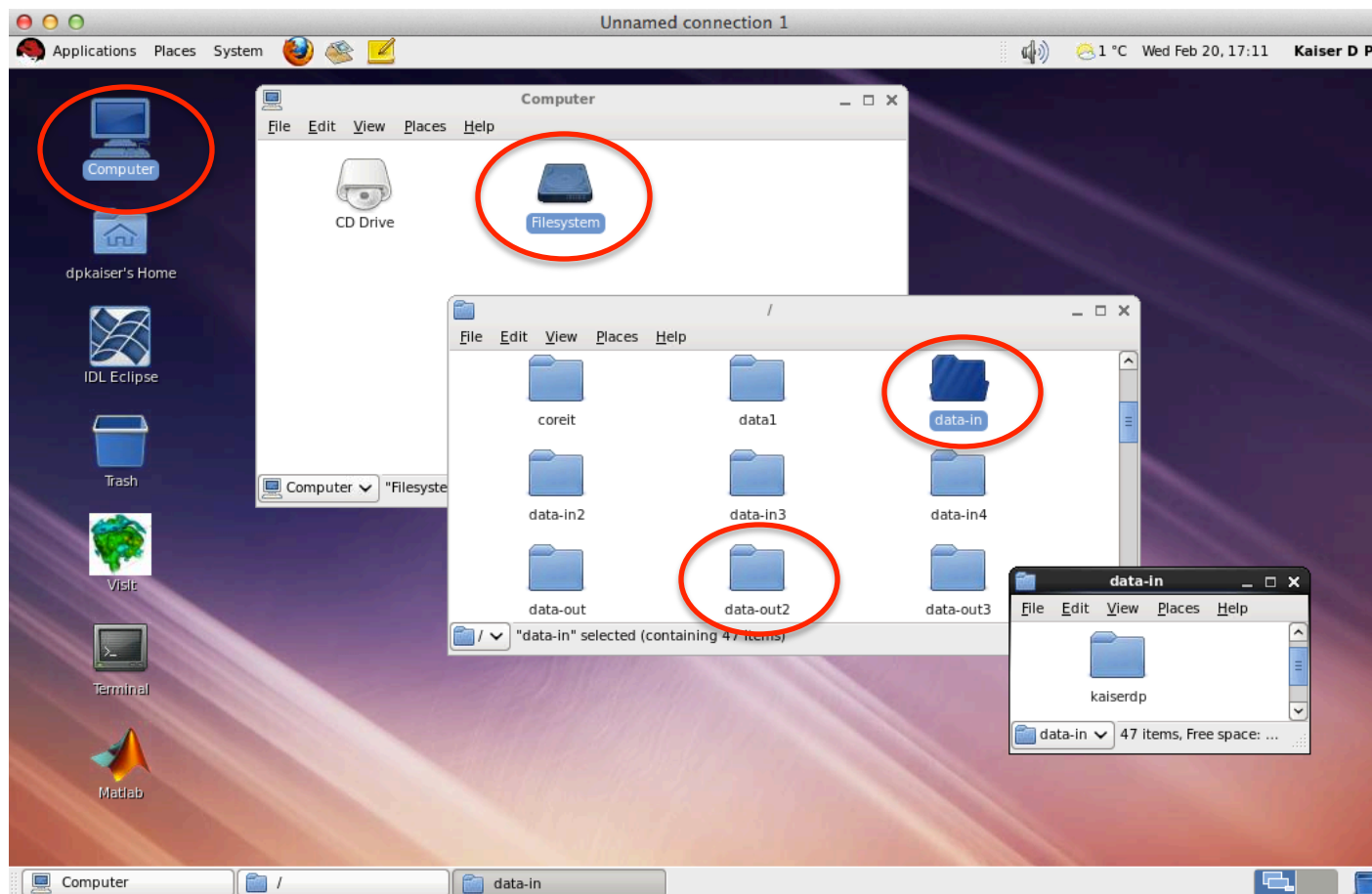


- Click on the connection you have just established (below, it is “Unnamed connection 1”) and in the next window enter your XCAMS Username and password, and click Ok. In the next window click on “Create a new session” and in the last window click on “Create a new GNOME virtual desktop”.

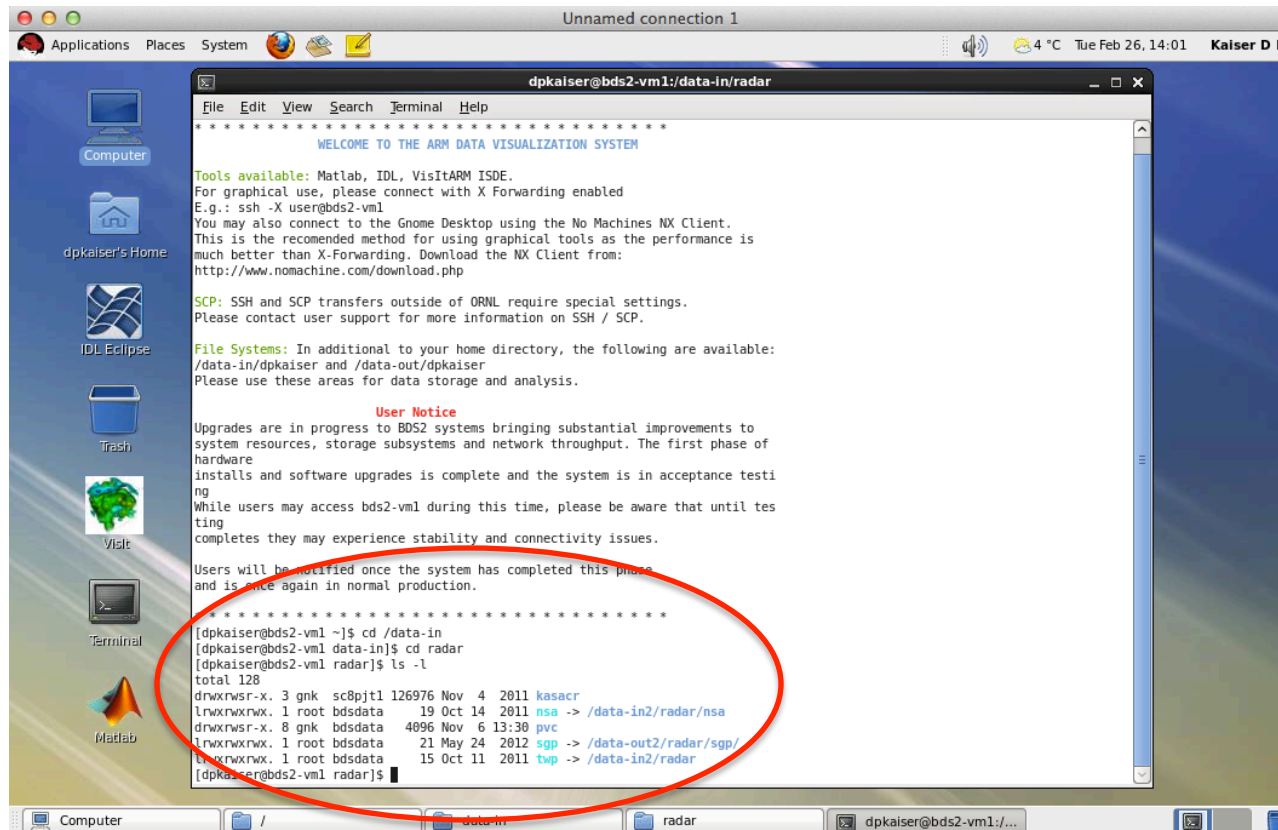


4. Navigating the features and tools of the Data Visualization Cluster

- Once logged into the server your desktop will appear. Double clicking on the “Computer” icon and then the “Filesystem” icon will display the dedicated folders “data-in” and “data-out”, along with others. (Or you can open a Terminal window under “Applications” to navigate directly to your data of interest, e.g., radar data in “data-in”.)
- Under both /data-in and /data-out you will find a directory with your Username for working with your I/O datasets.



- Example of finding data: To check the data currently available in the visualization cluster, navigate to the /data-in/radar directory. Data are stored by site and data stream name.



```
dpkaiser@bds2-vm1:/data-in/radar
File Edit View Search Terminal Help
*****
WELCOME TO THE ARM DATA VISUALIZATION SYSTEM

Tools available: Matlab, IDL, VisItARM, ISDE.
For graphical use, please connect with X Forwarding enabled
E.g.: ssh -X user@bds2-vm1
You may also connect to the Gnome Desktop using the No Machines NX Client.
This is the recommended method for using graphical tools as the performance is
much better than X-Forwarding. Download the NX Client from:
http://www.nomachine.com/download.php

SCP: SSH and SCP transfers outside of ORNL require special settings.
Please contact user support for more information on SSH / SCP.

File Systems: In addition to your home directory, the following are available:
/data-in/dpkaiser and /data-out/dpkaiser
Please use these areas for data storage and analysis.

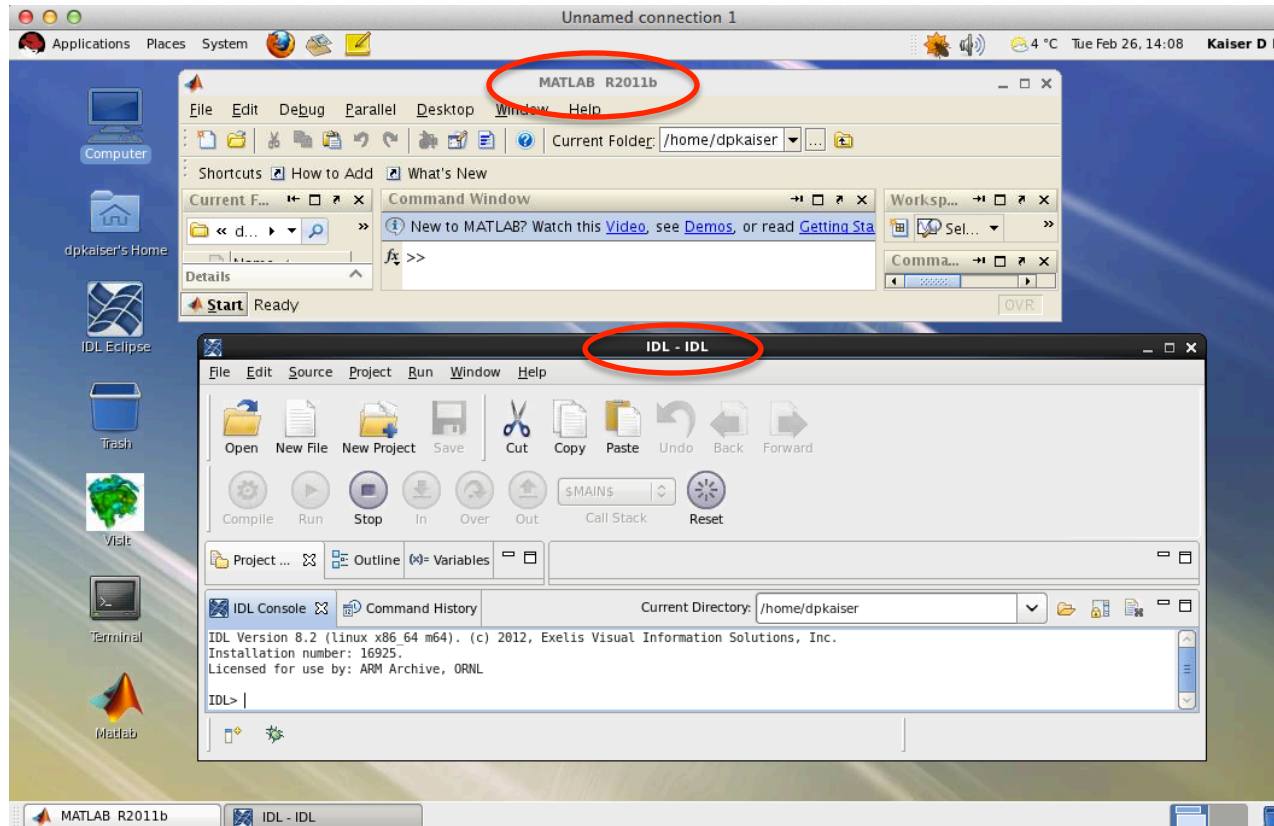
User Notice
Upgrades are in progress to BDS2 systems bringing substantial improvements to
system resources, storage subsystems and network throughput. The first phase of
hardware
installs and software upgrades is complete and the system is in acceptance testi
ng
While users may access bds2-vm1 during this time, please be aware that until tes
ting
completes they may experience stability and connectivity issues.

Users will be notified once the system has completed this phase
and is once again in normal production.

*****
[dpkaiser@bds2-vm1 ~]$ cd /data-in
[dpkaiser@bds2-vm1 data-in]$ cd radar
[dpkaiser@bds2-vm1 radar]$ ls -l
total 128
drwxrwsr-x. 3 gmk sc8pjt1 126976 Nov  4  2011 kasacr
lrwxrwxrwx. 1 root bdsdata  19 Oct 14  2011 nsa -> /data-in/radar/nsa
drwxrwsr-x. 8 gmk bdsdata  4096 Nov  6 13:30 pvc
lrwxrwxrwx. 1 root bdsdata  21 May 24  2012 sgp -> /data-out2/radar/sgp/
lrwxrwxrwx. 1 root bdsdata  15 Oct 11  2011 twp -> /data-in2/radar
[dpkaiser@bds2-vm1 radar]$
```

- If you don't find your data of interest in the radar folder, please use one of the standard ARM Archive user interfaces (<http://www.archive.arm.gov>) to order the data. You can then email armarchive@ornl.gov to request that your data order be staged to the visualization cluster in the directory /data-in/YourUsername.

- The system has a suite of *Applications* for analysis and visualization of data, including *Matlab*, *IDL*, and many others:



- The system also has a wide variety of programming language APIs including *Python* modules and *Perl*.
- When you wish to end your session, simply close the *NoMachine* window or click 'System' then 'Log Out'.

Questions or comments?

- Please contact:
 - armarchive@arm.gov or
 - 1-888-ARM-DATA